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SWEN90016 - Software Processes and Management

INDIVIDUAL ASSIGNMENT, SEMESTER 1 2017

Due date: 23:59, Friday, 14 April 2017
Word Limit: 1500 words

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1 AIMS AND OBJECTIVES

This is an individual assignment. It deals with the topics of software development lifecycles, process design, project plans and evaluation. The main aim of this assignment is for you to develop a better understanding of lifecycle models and their relationship to other aspects of the project. The task is to analyse the processes and project plan of the *Aura — Virtual Temporal Bone Surgery* project.

Using the *software project management plan* (SPMP) and *software requirements specification* (SRS) for the virtual surgery project, you are required to critique the choices made by the team and to consider possible alternatives.

Your analysis will need to develop an understanding of:

- the key features and requirements for the project;

- the unknowns and risks in the project as identified at the start of the project;

- the goals of the project and the various sub-phases of the project — what the team aimed for as the minimum deliverable and the characteristics of that deliverable; and

- the processes used by the team on the project and how effective the processes are at meeting those goals.

Accompanying this assignment is two documents:

1. the software project management plan (SPMP) detailing the process, team structure, roles and processes; and

2. the software requirements specification (SRS) detailing the system to be built.

These are available in electronic format on the LMS, under the *Assignments* menu.

2 THE ESSAY

Consider the following proposition:

"The Virtual Surgery project used a prototype-driven, incremental software development lifecycle model. This was the only suitable process for the project due to the unfamiliarity with the new technology, the technical difficulty of the problem and the uncertainty of requirements."

You are required to write a short essay — *up to 1500 words* (about three pages) — stating whether 基本原理 or not you agree with the proposition and the rationale for your stated position. *Diagrams may be used and count as 150 words*. Your essay should discuss the following points:

1. what you believe to be the most important two or three risks in the project, and why you believe this;

2. characteristics, features, and requirements of the project that will make it a difficult project; and

3. alternatives to the chosen software development life-cycle model and why they would not be as suitable, or why they would be more suitable. *choose 2*

SOME ADVICE

1. There is no right answer here[1] and what you will need to do is to develop the logic and reasoning behind making technical choices.

2. You will need to extract the information that you need from the sources — it may not be obvious. If you truly cannot find what you need then you may make an assumption but please state your assumption clearly.

3. You will need to make a clear, logical and convincing defence of your position. To do this you need to first gather the information that you will need — and you may do this in consultation with or sharing your ideas with fellow classmates — and then organise the information setting it out logically and then writing the essay.

4. *Structuring and writing essays is an individual task and should not be done in groups*.

5. You should use references in the form of section names and page numbers into the Aura 讲义 SPMP, the Aura SRS, the handouts, or lecture notes, rather than reproduce large amounts of text in your essay.

3   ASSESSMENT

Your essay will be assessed on your understanding of the work covered so far and on your ability to apply what has been learned to the analysis of the project.

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[1]As a software engineer you will have to make reasoned choices. The real learning experience here is in developing the logic to justify a course of action or a set of choices.

Students are encouraged to take the initiative and look up additional process models, but in marking your essays we are after the *quality of analysis* not the breadth of models covered. That is, we are trying to keep the scope narrow and to concentrate on understanding that can be applied to other process models. A detailed and thorough analysis of the subject material is likley to receive a higher mark than a submission that covers several models with a less convincing analysis.

The assessment takes into account your ability to critically assess the important strengths and weaknesses of processes used in the case study, argued on the basis of evidence from the notes and documents, and for you to make as best an evaluation as possible of the efficacy of these. Given the often novel nature of software and the problems of keeping abreast of evolving technology, these skills are not only essential, but *vital* for software all engineers.

We understand that it is early in the semester and that not all of the material in the SPMP and SRS has been covered but the important point is to begin developing your analytical skills and your ability to develop the logical and technical thinking.

4   SUBMISSION

Submit the assignment using the Turnitin link on the subject LMS. Go to the SWEN90016 LMS page, select *Assignment submit link* from the subject menu, and then select *View/Complete* from the *Assignment* item. Following the instructions, upload a **PDF** file containing your essay.

The specification for your submission is as follows:

> **SWEN90016 Software Processes and Management — Assignment**
> **Essay Title**
> **Your Name**
> **Your LMS login**
> **Your Tutorial Time**
> **Essay Body**

5   LATE SUBMISSIONS

Late submissions without an approved extension will be subject to a penalty of 1% per day. Weekends count as a single day. No assignment will be accepted more than one week late.

6 PLAGIARISM

The University plagiarism policy applies — see the LMS for a statement of the expectations. In this assignment you may work in groups to extract the data from the SPMP, and SRS, and discuss the application of different software engineering practices to the Aura project. However, *you must structure and write the essay on your own*. That is, the words on the page must represent your own ideas and understanding of the topic.

Two essays with similar structure and similar arguments may receive the special attention of the subject staff.